

**IN THE CLAIMS:**

The following listing of claims replaces all prior versions and listings of claims in the present application.

Listing of Claims:

1. (Original) A heating device comprising:  
a heating body;  
a power source for supplying a current to said heating body;  
a current control element controlling current flowing through said heating body; and  
a heat conductive body to be thermally coupled with said heating body and said current control element for transmitting heat generated by said heating body and heat generated by said current control element to a heating object.

2.-18. (Cancelled)

19. (New) A heating device according to claim 1, wherein said current control element is a heating device according to claim 1, wherein said current control element is one of a bipolar transistor, a thyristor and a magnetic amplifier.

20. (New) A heating device according to claim 1, wherein said current control element is a field effect transistor, a bulk process is used when the target heating temperature of said heating object is between 150°C and 175°C.

21. (New) A heating device according to claim 1, wherein said current control element is a field effect transistor, an SOI (Silicon On Insulator) process is used when the target heating temperature of said heating object is between 150°C and 225°C.

22. (New) A heating device according to claim 1, wherein said current control element is a field effect transistor, a SiC (Silicon Carbide) process is used when the target heating temperature is higher than 225°C.

23. (New) A heating device according to claim 1, further comprising a control unit provided at a position apart from said heat conductive body and separated from said current control element, which controls said current control element.

24. (New) A heating device according to claim 1, wherein another current control element which controls a current flowing through another heating body is thermally coupled with said heat conductive body.